

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
7 July 2005 (07.07.2005)

PCT

(10) International Publication Number
WO 2005/060921 A1

(51) International Patent Classification⁷: **A61K 6/027**,
C03C 13/00, 13/04, 21/00, A61K 6/083

PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM,
TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM,
ZW.

(21) International Application Number:
PCT/EP2004/014614

(84) Designated States (unless otherwise indicated, for every
kind of regional protection available): ARIPO (BW, GH,
GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM,
ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM),
European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI,
FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO,
SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN,
GQ, GW, ML, MR, NE, SN, TD, TG).

(22) International Filing Date:
22 December 2004 (22.12.2004)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
03 029 538.0 22 December 2003 (22.12.2003) EP

(71) Applicant (for all designated States except US): **3M ESPE**
AG [DE/DE]; ESPE Platz, 82229 Seefeld (DE).

(72) Inventors; and

(75) Inventors/Applicants (for US only): **HOESCHELER**,
Stefan [DE/DE]; Pilsenseestrasse 9a, 82211 Herrsching
(DE). **ALBRECHT**, Dirk [DE/DE]; Lissingstrasse
11, 82211 Herrsching (DE). **STIPPSCHILD**, Andrea
[DE/DE]; Ahornallee 169, 86899 Landsberg (DE). **DEDE**,
Karsten [DE/DE]; Karwendelstrasse 29, 86899 Landsberg
(DE).

(74) Common Representative: **3M ESPE AG**; ESPE Platz,
82229 Seefeld (DE).

(81) Designated States (unless otherwise indicated, for every
kind of national protection available): AE, AG, AL, AM,
AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN,
CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI,
GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE,
KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD,
MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG,

Declaration under Rule 4.17:

— as to applicant's entitlement to apply for and be granted
a patent (Rule 4.17(ii)) for the following designations AE,
AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ,
CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE,
EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS,
JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA,
MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM,
PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY,
TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VC, VN, YU, ZA,
ZM, ZW, ARIPO patent (BW, GH, GM, KE, LS, MW, MZ,
NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM,
AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT,
BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR,
HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK,
TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ,
GW, ML, MR, NE, SN, TD, TG)

Published:

— with international search report
— before the expiration of the time limit for amending the
claims and to be republished in the event of receipt of
amendments

For two-letter codes and other abbreviations, refer to the "Guid-
ance Notes on Codes and Abbreviations" appearing at the begin-
ning of each regular issue of the PCT Gazette.

(54) Title: GLASS FILLER MATERIAL AND METHOD OF PRODUCTION

(57) Abstract: The present invention relates to a glass filler material with an average particle size of 0.1 - 20 µm. It further relates to a method for producing a glass filler material. The glass filler material comprises 65 - 99.95 mol% silicon dioxide (SiO₂), 0 - 15 mol% aluminum and/or boron oxide (Al₂O₃, B₂O₃), 0 - 30 mol % zirconium and/or titanium and/or hafnium oxide (ZrO₂, TiO₂, HfO₂), Y₂O₃ and/or Sc₂O₃ and/or La₂O₃ and/or CeO₂ and/or other lanthanide oxides, 0.05 - 4 mol% alkali metal oxides (Na₂O, Li₂O, K₂O, Rb₂O, Cs₂O), 0 - 25 mol% earth alkali metal oxides (MgO, CaO, SrO, BaO). The glass filler material shows a low concentration of alkali ions and is used for composites with cationically curing properties and for dental composites and dental restoration materials.

WO 2005/060921 A1